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The current operational concepts of the sea services describe a complex littoral environment with dense urban areas and highly sophisticated threats posed by both state and non-state actors that can reach across domains and influence land, air and sea. This evolving Anti-Access/Area-Denial (A2/AD) environment challenges long-held assumptions about the ease with which the United States can project power ashore without accepting significant risk to American naval forces. In future littoral operations, the United States will need to use a force that can seamlessly operate across domains in an uncertain or hostile environment. Amphibious forces are the ideal instrument for such an environment, but they will need to be able to operate over vast distances and to repeatedly cross between domains to neutralize threats and accomplish the mission. Current doctrinal amphibious command and control (C2) relationships are ineffective for an integrated naval force operating in this environment. In likely future littoral operations, a Marine Expeditionary Brigade/ Expeditionary Strike Group (MEB/ESG)-sized Amphibious Force (AF) will need to employ distributed forces ashore and afloat for a prolonged period in areas where sea control is still in dispute. In these operations, the optimal command structure is a unified commander with an integrated staff to ensure unity of effort, the efficient use of staff officers and the speed of the AF decision-making cycle.

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# COMMAND AND CONTROL IN LITTORAL OPERATIONS

**by**

**Mark Nostro**

**Major, US Marine Corps**

**A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.**

**The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.**

**13 May 2016**

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## Paper Abstract

The current operational concepts of the sea services describe a complex littoral environment with dense urban areas and highly sophisticated threats posed by both state and non-state actors that can reach across domains and influence land, air and sea. This evolving Anti-Access/Area-Denial (A2/AD) environment challenges long-held assumptions about the ease with which the United States can project power ashore without accepting significant risk to American naval forces. In future littoral operations, the United States will need to use a force that can seamlessly operate across domains in an uncertain or hostile environment. Amphibious forces are the ideal instrument for such an environment, but they will need to be able to operate over vast distances and to repeatedly cross between domains to neutralize threats and accomplish the mission. Current doctrinal amphibious command and control (C2) relationships are ineffective for an integrated naval force operating in this environment. In likely future littoral operations, a Marine Expeditionary Brigade/ Expeditionary Strike Group (MEB/ESG)-sized Amphibious Force (AF) will need to employ distributed forces ashore and afloat for a prolonged period in areas where sea control is still in dispute. In these operations, the optimal command structure is a unified commander with an integrated staff to ensure unity of effort, the efficient use of staff officers and the speed of the AF decision-making cycle.

## ABOARD *USS AMERICA* IN THE NEAR FUTURE

*Admiral Mara entered the Joint Operations Center of the Expeditionary Strike Group (ESG). It had only been two weeks since he and his staff had flown aboard. He looked at the graphics on the wall displaying the position of the various forces under his command. Only a few of his 14 ships were in formation with him, while several others unloaded humanitarian aid in the recently seized port 100 miles to the north. A battalion landing team secured that facility, while two company landing teams strong-pointed the mouth of the straits 50 miles to the south. These small forces were supported by a screening force of destroyers, preventing enemy Coastal Defense Cruise Missiles (CDCM) from moving into position. Another company sized element was airborne, moving towards an enemy patrol boat base, intent on destroying missile boats and minelayers that had recently been discovered by Unmanned Aerial Systems (UAS). It was a flurry of diverse operations, and all these forces relied on his Amphibious Task Force (ATF) for sustainment, fire support, and mobility. Facing the broad spectrum of threats from mines, patrol boats, submarines and coastal defense cruise missiles, the ATF's sea control was only local, and he needed to maintain it with his escort force in order to continue to support the operations ashore.*

*Brigadier General Terra commanded the Marine Expeditionary Brigade (MEB), but was subordinate to Admiral Mara in his role as the overall Commander, Amphibious Force (CAF), as well as the Commander, Amphibious Task Force (CATF). They had both grown up serving in the Amphibious Ready Group/ Marine Expeditionary Unit (ARG/MEU) arrangement of co-equal command, but General Terra shared the Admiral's view that the ESG/MEB they led here to respond to the crisis was best commanded under a unified authority on-scene.*

*Admiral Mara and General Terra's close and comfortable relationship was a great asset to the Amphibious Force, but it enhanced a clear structure of authority and staff process that had been tested through past experiments and exercises and was capable of controlling this large and diverse force spread out over a contested littoral. He was confident that his force was up to the challenge they faced.*

## MODERN LITTORAL OPERATIONS

The scenario above reflects the future operating environment described in Navy and Marine Corps documents written to provide institutional direction into the near future.[1] *A Cooperative Strategy for 21st Century Seapower* describes a complex littoral environment with dense urban areas and highly sophisticated threats posed by both state and non-state actors. These threats will possess capabilities that can reach across domains and influence land, air and sea.[2]

This evolving Anti-Access/Area-Denial (A2/AD) environment challenges long-held assumptions about the ease with which the United States can project power ashore without accepting significant risk to American naval forces. As theater access became a foregone conclusion over recent decades, US amphibious capability in practice was largely reduced to the ARG/MEU. These forces, while capable and well understood because of their continuous use, are not large or powerful enough to conduct forcible entry operations in a contested littoral. Further, their operation under co-equal command is tailored to the low threat environment they operate in, and not the challenged maritime domain that service leaders expect to confront in the near future.

[1] See Bibliography, specifically *Amphibious Ops in 21st Century*, *Cooperative Seapower*, *EF-21*, etc.
[2] USN, USMC, USCG, *Cooperative Strategy for Seapower*, 8.

Beyond the continuous use of the ARG/MEU, joint amphibious doctrine focuses on a much larger amphibious force operating in support of a broad land campaign. There are clear transitions as the order is given to "land the Landing Force (LF)" and then "transition command ashore," followed by the LF essentially cutting its ties to the Amphibious Task Force and instead operating as part of a land component. This arrangement is inappropriate when the Amphibious Force must confront an integrated maritime defense with long range weapons that cross domains. The AF must be able to simultaneously fight at sea and ashore, and to repeatedly transition forces ashore and back to a seabase.

In this contested littoral environment, U.S. objectives may include the security of commerce, continued access to the maritime commons, protection of populations ashore or the defeat of an adversary. To accomplish these objectives, the United States will need to use a force that can seamlessly operate across domains in an uncertain or hostile environment. Amphibious forces are the ideal instrument for such an environment, but they will need to be able to operate over large distances and to repeatedly cross between domains to neutralize threats and accomplish the mission. While recently published operational concepts envision an integrated naval force projecting power in this environment, current doctrinal amphibious command and control (C2) relationships are ineffective for these types of operations.

Expeditionary Force-21, the Marine Corps' capstone operating concept states that "The increased range, precision, and proliferation of A2/AD systems highlight the need to conduct dispersed operations with smaller, task-organized forces."[3] EF-21 refers to the MEB as "the centerpiece of an expeditionary force in readiness prepared for immediate, effective employment in any type of crisis or conflict" and declares the MEB the Marine Corps' "main

[3] USMC, *EF-21*, 9.

effort in force development" and that it should be able to "integrate with the Navy for the conduct of amphibious operations."[4]

In likely future littoral operations, a MEB/ESG-sized Amphibious Force will need to employ distributed forces ashore and afloat for a prolonged period in areas where sea control is still in dispute. To defeat an adversary in this environment requires an Amphibious Force that is flexible, agile, and capable of simultaneous operations across all domains. In a MEB/ESG-level Amphibious Force (AF) conducting operations across a contested littoral, the optimal command structure is a unified commander with an integrated staff to ensure unity of effort, the efficient use of staff officers and the speed of the AF decision-making cycle.

## AMPHIBIOUS COMMAND AND CONTROL FRAMEWORKS

In current joint doctrine, there are three primary command authorities. The Commander, Amphibious Force (CAF) is the officer in overall command of an amphibious operation. That authority can reside with a unique designated commander, or can be held by the functional Maritime Component Commander (JFMCC/CFMCC) or the Joint Task Force (JTF) commander. Subordinate to him are the Commander, Landing Force (CLF) and the Commander, Amphibious Task Force (CATF).[5] The CATF and CLF command the naval force and the ground force, respectively.

The two primary models of amphibious command and control are the co-equal command model and the supremacy of a single, overall commander. While the names of these models and the titles of the commanders have changed, there is a general precedent in one set of cases where the two co-equal commanders of the land and naval force operate in

[4] Ibid., 13.
[5] CJCS, *JP 3-02* , II-1.

support of each other, with one commander yielding to the other when he has the "paramount interest."[6] Another set of cases sees a clearly defined superior commander exercise overall command. This commander has almost exclusively been a naval officer with responsibility for both the naval force and the landing force.[7]

Various other command relationships including, OPCON, TACON, supporting/supported, and co-equal for planning are used to clarify responsibilities and to unify the efforts of the Landing Force and the Amphibious Task Force. To define the inflection points of those relationships, transitions of command authority are used that are based on the classic example of an amphibious assault in support of a larger campaign.

Historical precedence for amphibious command relationships relies on the transition of authority from a commander afloat to one that is ashore. The various command and control structures that have been developed all revolve around the division of authority between those forces ashore and afloat, based on the build-up of combat power ashore. While some structures make accommodations for retaining C2 of the landing force afloat, they assume authority generally once the landing force is sufficiently established ashore.

Changes in seabasing capacity, the littoral environment, and likely Amphibious Force objectives make the transition of combat power and C2 capability ashore a poor indicator for the appropriate time to transition authority from the CATF to the CLF in the aforementioned scenario. Should the CLF determine that it is unnecessary to transfer his C2 ashore in order to effectively control his force, he does not have that event as a tipping point in his relationship with CATF, even if he is responsible for the accomplishment of the overall mission of the Amphibious Force. Likewise, if the objectives of the Amphibious Force or

[6] Peabody, "Paramount Interest", 6.
[7] Ibid., 5.

the concerns of local authorities suggest that the movement of significant forces ashore for an extended period of time is imprudent, that again fails to serve as a relevant transition point. Frequent movement of forces from a seabase to objectives ashore and back again while simultaneously conducting maritime operations to gain and maintain sea control are likely to cause more confusion if command relationships change repeatedly.[8] The persistent operations across the littoral that are described above cause problems in a co-equal command structure since both CATF and CLF forces are critically engaged and facing risk from the enemy throughout the amphibious operation. Therefore, in this scenario a C2 structure built around the transition of supported/supporting roles between CATF and CLF is not likely to effectively unify the effort of the Amphibious Force.[9]

## PARAMOUNT INTEREST: CO-EQUAL COMMAND

The ARG/MEU model of co-equal command relies on the CATF and CLF to work together in their mutual interest to accomplish the mission. This model relies on the close working relationship between the commanders and their mutual desire to accomplish the mission. Variations of this purely equal model can include supporting/supported relationships laid out in an establishing directive.[10] While this may make it more clear who is to be supported at specific points in the amphibious operation, it would not provide OPCON or TACON to one of the commanders over the other. Further, one commander may not alter his course of action without consulting the other commander.[11]

In a contested littoral environment, a co-equal command model is likely to fail as the interests of the CATF and CLF diverge. A capable commander leading an effective defense

[8] Marine Corps Combat Development Command, *EF-21: MEB CONOPS*, 31.
[9] Concepts Branch, MCWL, "Littoral Ops in a contested Environment," 8.
[10] CJCS, *JP 3-02*, II-3 – II-4.
[11] Ibid, II-5.

imposes risk on both the Landing Force and the Amphibious Task Force simultaneously.[12] The threat to the ATF will inherently affect its willingness, and more importantly, its ability, to support the LF. Likewise, LF operations, particularly the distributed use of small forces across a large area, will require ATF support that would be jeopardized by a capable adversary. These tensions will increase as the operation continues, and will put the accomplishment of the AF mission at risk. It may allow the enemy to separate the ATF and LF, or it may simply prevent them from truly mutually supporting each other. A capable adversary with an integrated littoral defense can undermine the unity of effort of an Amphibious Force that operates under a co-equal command relationship.

Dawn Blitz 2015, a MEB/ESG-level exercise on the West Coast, simulated a limited A2AD threat once the amphibious force arrived in theater. The CATF and CLF used a supporting/supported relationship, and the establishing directive lacked detail of the specifics of the relationship, a problem that could have been disastrous had there been a more capable enemy. The establishing directive indicated the supported command by phase, stage, and part. Only one change was planned, and it was based on the transition of MEB C2 ashore.[13] The ESG and MEB commanders had a close working relationship, which mitigated some of the ambiguity of the establishing directive. While the command relationship worked, it was largely untested due to the design of the exercise. Even then, observers from the Center for Naval Analyses (CNA) saw friction when the ESG was threatened by CDCMs and ships were repositioned.[14] Had the scenario involved a more serious threat to the ATF, it would likely have further disrupted the relationship between CATF and CLF. While effective

[12] Gatchel, *Water's Edge*, 204-208.
[13] CNA, *Dawn Blitz AAR*, 7-8.
[14] Ibid., 10-12.

personal relationships between commanders and staffs greatly improve unit cooperation, they cannot be relied upon as the only method for ensuring mutual support of the ATF and LF.

Dawn Blitz 2015 left CAF authority with the CFMCC, who never weighed in on any disputes between CATF and CLF.[15] Other recent MEB/ESG-level exercises have also placed CAF authority with the CFMCC/JFMCC at a location far removed from the Amphibious Force. This produces a de facto co-equal command relationship, as there is little direct involvement from the CAF.

## THE PROBLEM OF THE CAF

While intended to clarify roles, responsibilities and authorities in joint doctrine, the CAF echelon of command has produced the opposite effect in recent exercises. Designating a CAF should unify command of the Amphibious Force in a single officer. It should ensure that while CATF and CLF may have a supporting/supported relationship with each other, and those roles may change by phase of the operation, there is a single authority for the AF as a whole. Instead, the CAF has consistently been designated as an additional role of the JFMCC, who has been geographically separated. At times, that authority has been delegated to a subordinate commander within the AF.

Bold Alligator 2014 (BA 14), an amphibious exercise conducted on the East Coast that is similar to Dawn Blitz, attempted to use the CAF authorities to clarify command relationships during crisis response missions. Instead, the assignment of multiple CAFs and the frequent change in the headquarters that held that authority increased confusion. The Final Report from Bold Alligator 2014 states that "while intended to clarify command authority, the term CAF became a point of confusion and led to instances where various staffs across the naval force were uncertain about who was the CAF, how many CAFs there

[15] Ibid., 10.

were at any given time based on multiple, concurrent missions, and what relationship existed between the CAF and subordinate commands with CATFs and CLFs co-existing at both the task force and task group level."[16]

While CAF authority may be held by the JFMCC or JTF commander, that structure means that the CAF is neither physically present with, nor exclusively focused on, the mission and circumstances of the Amphibious Force. Figure 1 illustrates this structure. A

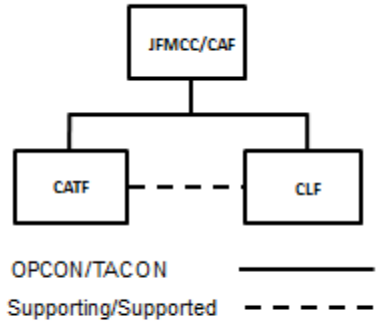


Fig. 1 CAF as additional role of JFMCC

higher commander with significant responsibilities for other forces and missions is not well positioned to provide timely and relevant command decisions. Likewise, if that commander and his staff are physically separated from the Amphibious Force by long distances, his ability to understand the problem in depth and to interface with subordinates and key staff members is further degraded. After Bold Alligator 2014,

> *"there was general agreement the term commander, amphibious force (CAF) was not required and did not add clarity to the organization of the maritime force. C/JFMCC has the authority to establish relationships and allocate resources among subordinate forces, including the amphibious force. To label CFMCC/JFMCC as the CAF- the common superior to CATF and CLF- tends to detract from CFMCC/JFMCC as the common superior of all assigned task force commanders- not just CATF and CLF."*[17]

[16] NWDC, *Bold Alligator Final Report*, 9.
[17] NWDC, *Bold Alligator Final Report*, 10.

These factors make the JFMCC or JTF commander a poor choice for the CAF role.

The CAF could instead be created as another echelon of command, as described in the joint doctrine, lying above the CATF and CLF, but below the JFMCC or JTF commander. This arrangement is reflected in Figure 2. While this may be the ideal

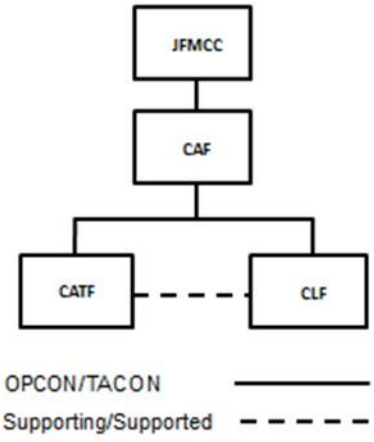

Fig. 2 CAF as distinct layer of command

arrangement in the landing of a MEF-sized force or larger, in support of a much broader campaign, it is impractical in a MEB-sized operation in the likely employment scenarios considered here. Staffing shortfalls are a significant concern for both the ESG and the MEB. These limitations reduce their staff effectiveness and require key staff billets to be filled at the last minute from other organizations. To not only fill those gaps, but to also fill out an additional staff above the CATF/CLF would be nearly impossible without globally sourcing its members or gutting another local command element. The complexity of these operations require a staff that has trained and operated together as a team, and creating another ad-hoc organization as the staff of the AF weakens the warfighting ability of the Amphibious Force.

During BA 14 the exercise force attempted to pass the CAF authority between CATF and CLF, and even to subordinate task forces and task groups based on the mission.[18] This is also ineffective as it sows confusion and requires a decision to pass the authority. In many ways, the decision to pass the authority is as significant as identifying a transition point for changes to the supporting/supported relationship. Attempting to give a different commander the authorities of the CAF based on the mission added to the confusion since missions were frequently overlapping in time and space. Therefore a hybrid model where CAF authorities are passed between commanders based on the circumstance is also imprudent.

## UNITY OF COMMAND IN THE AMPHIBIOUS FORCE

> *"[Unified command] is most necessary at the point of contact with the enemy. Strategic commanders have time to explore and discuss. So do combat commanders in the planning stage, when cooperation calls for mutual deference, and referral of some arguments to higher authority is feasible. In action, when a prompt decision may mean the difference between success and failure, and time may not permit referral to a common superior, one officer, not two, must have authority to decide."*[19] *– Admiral Blandy, 1951*

Since the co-equal model exposes the overall Amphibious Force to risk as the threats and interest of the CATF and CLF diverge, unity of command should be established within the Amphibious Force. The CAF, as defined in the most recent joint doctrine, is intended to provide that unity of command. When held at the JTF or JFMCC level, it does not actually improve the speed of decision or unity of effort of the amphibious force. Personnel requirements and shipboard space do not support the establishment of CAF as an independent echelon of C2. Instead, the CAF authorities should be held by a commander physically located with, and exclusively focused on, the Amphibious Force. Based on the AF objectives and capabilities, as well as the environment and threat, either the CATF or

[18] Ibid., 10.
[19] Blandy, "Command Relationships in Amphibious Warfare", 5.

CLF should be imbued with that authority, giving true unity of command to a commander on the scene. This arrangement is shown in Figure 3. In addition to giving CATF and CLF a unified commander, their staffs can be integrated to gain efficiency and further streamline staff processes and C2 procedures.

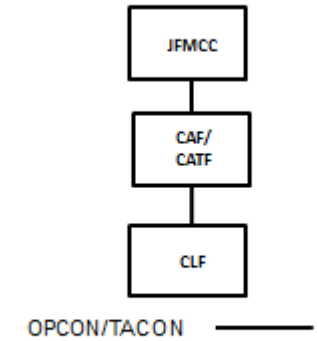

Fig. 3 CAF as additional role of CATF

Due to the limitations of the other command and control structures in this scenario, an integrated naval staff with the authority of the CAF is the preferred organization. Imbuing the CATF or the CLF with CAF authority and integrating their staffs to support his leadership of the overall task force is the most effective method of command and control for a force that conducts multiple, distributed operations that span the littoral. It is efficient in both its use of personnel and in the likely speed of decision-making.

## INTEGRATED STAFF EFFECTIVENESS

The arguments throughout this paper primarily relate to unity of command and unity of effort. These principles can be achieved with a single commander, or at least a clearly defined command relationship. Beyond the consolidation of command authority and improvement of C2 structure, the integration of the ESG and MEB staffs has other benefits. The staffs of the ESG and the MEB are limited. While the ESG has responsibilities to

perform CATF functions in a crisis, its routine function is as a facilitator for the stand up and deployment of the PHIBRONs.[20] The MEB has a core staff, but otherwise relies on its parent MEF to provide additional staff members and capabilities. As both staffs are already limited by their personnel, combining them to achieve full functionality is clearly beneficial. Additionally, the staffing limitation of the ESG and MEB reinforces the infeasibility of creating another command echelon as the CAF. While it exceeds the scope of this paper, there are limitations in space and communications bandwidth that further preclude the use of large and distinct CAF, CATF, and CLF staffs aboard the same L-class ship.

The MEB and ESG staffs that are expected to form the nucleus of the CATF and CLF structure are under-resourced and limited in the time they have to prepare for this type of responsibility. "As was the case in past [Bold Alligator exercises], the ESG-2 staff required significant augmentation to operate as the CATF in a MEB-sized operation… [Likewise], out of 196 MEB command element billets, 75 were permanent staff with 54 billets battle rostered from the MEB's parent command."[21] They will require augmentation and extensive training to reach a basic level of functionality. This training should focus on performing as an integrated staff for an Amphibious Force. Identifying the shortfalls in ESG and MEB staff, and planning to cover gaps with capabilities from the other is an efficiency that can be gained through this integrated structure. It is critical to plan for this integration, to train personnel to function in a hybrid staff, and to be able to rapidly form this staff in response to a crisis. Joint doctrine describes this capability and it is further emphasized in current operating concepts, but not explained in any detail.[22]

[20] Scott, "Expeditionary Strike Group Two," 6.
[21] NWDC, *Bold Alligator Final Report*, 13.
[22] See *EF-21, EF-21 MEB CONOPS, Amphib Ops in 21st Century, Littoral Operations.*

## SPEED OF DECISION

The integrated naval staff would also be more efficient in time. Removing a layer of staff review and revision would streamline the decision-making process. Ensuring that the command authority of the CAF resided afloat with the Amphibious Force and not in a distant headquarters with the JFMCC or JTF commander would also reduce turnaround time. Finally, the integrated staff model enhances cooperation and coordination between the CATF and CLF, ensuring they are not working at cross purposes and instead are mutually supporting.

Consider a decision that must be reviewed by the staff of the CLF, CATF, and then the CAF. This decision could be analyzed by an integrated staff imbued with the authorities of all three commanders, who are aware of the capabilities and requirements of all subordinate forces. This integrated staff would provide more complete information to the commander, and would allow the commander to make a decision more quickly, and to route those orders to subordinate forces through fewer intervening layers of command. These more timely decisions would produce more timely actions, and this would assist the Amphibious Force in outmaneuvering and defeating the adversary.

After BA14 General Simcock stated that the commanders tried to push some of the CAF decision-making authority "down to our subordinate commanders so they could get their operations conducted faster… Those are CAF decisions straight out of the publication and we wanted those decisions pushed down to us so we could make them in a timely manner so they wouldn't have to go up the chain all the way to the CAF who was thousands of miles away from the actual actions on the ground."[23] The AF must collect, analyze, and disseminate information rapidly in order to succeed. An integrated staff model is most likely

[23] Simcock, Interview, 5.

to ensure that information gets to the right place as quickly as possible, and to employ forces in the most effective manner.

Admiral Hewitt commented on the impact of time lag in decisions about aviation and naval gunfire support during crucial moments of Operation Avalanche. He stated, "the incident does illustrate the time lag in communications and the danger of decisions being made in a rear area for a front line commander who is the one best able to appreciate the immediate tactical situation."[24] In addition to the danger of leaving decisions to commanders far removed from the battlefield, there is a danger in not providing the commander the authority he needs over the correct forces and capabilities. Hewitt continued, "tactical unity of command implies that a tactical commander should have under his own control all the available instruments necessary to the successful accomplishment of his mission."[25] Giving overall command of the Amphibious Force to an officer who is physically present and leading a balanced staff ensures that all the instruments that Hewitt refers to are under that commander's authority. That is a requirement for the Amphibious Force to be successful against an enemy that is using synchronized land, sea and air forces against it.

## CONCLUSIONS

Persistent operations across the littoral are increasingly likely in response to future crises. As operational commanders design the forces and command relationships to conduct these operations, it is critical to establish both unity of effort and unity of command within the Amphibious Force. Retaining CAF authority at the C/JFMCC or JTF level essentially places the CATF and CLF as co-equals, geographically separated from their higher headquarters. Limitations of personnel availability, time, and ship space prevent the CAF

[24] Hewitt, "Allied Navies at Salerno", 38.
[25] Ibid.

from being formed as a distinct and separate echelon of command above CATF and CLF. Therefore, based on the composition and objectives of the AF, either CATF or CLF should be given the title and authorities of CAF to ensure unity of effort within the AF.

In addition to designating a single commander, the CATF and CLF should integrate their staff as much as possible. This C2 arrangement has multiple advantages. The AF will more easily operate across the entire littoral because redundancy and gaps will be reduced. Decisions will be made more quickly because a layer of staff process is removed, and the integration will foster more effective coordination between the LF and ATF. Further, the staffs of MEBs and ESGs are limited and are manned below the level required to C2 these types of operations without augmentation. That augmentation can be reduced by finding efficiencies through an integrated staff. Most importantly, this integrated staff will view the blended domains of the littoral as one battlespace, applying LF and ATF capabilities where appropriate, and mitigating the weaknesses of their forces through a mutually supporting approach.

This command and control model for the Amphibious Force gives the Operational Commander the most capable force. As the Combatant Commander or JTF commander analyzes his objectives and determines the forces he needs to achieve those objectives, this type of expeditionary maritime capability improves his options. It increases the AF's ability to influence both the land and maritime domain simultaneously and to protect itself. It also reduces the requirement for bases and facilities ashore, potentially reducing the size of the force required, or limiting the political implication of establishing a large footprint. This gives the JTF or Combatant Commander a more versatile force that can accomplish more

difficult missions against a more capable adversary while minimizing its requirements for personnel and logistical support.

## RECOMMENDATIONS

Decades of uncontested U.S. power projection from the sea have created a flawed expectation of the ease with which maritime forces can operate in a contested littoral environment. U.S. amphibious doctrine has evolved to place too much distinction between the actions of forces ashore and afloat, relying on a supporting/supported construct wherein the actions of the ATF and LF are totally separate. Recent publications by the sea services have identified these problems, and describe operational concepts that would return the capability for integrated naval expeditionary forces to the joint force. These broad concepts need more refined doctrine, challenging and realistic exercises, and carefully refined tactics, techniques and procedures in order to be effectively implemented.

JP 3-02 was updated in 2014 to include the CAF. While it addresses the full spectrum of Amphibious Forces, it does not discuss alternate C2 structures in sufficient depth, particularly as it relates to persistent littoral operations. JP 3-02 also lacks a clear description of when and how it is appropriate to integrate the staff of the CLF and CATF. Joint doctrine should include an integrated command and staff model. More precise discussion of the value of the CAF and the relevance of this authority in various types of amphibious operations also belongs in JP 3-02. Refining the doctrinal foundation of U.S. amphibious operations is an important component of preparing for future operations in a contested littoral environment.

The Bold Alligator, Dawn Blitz and Ssang Yong series of amphibious exercises provides an outstanding opportunity to refine these command frameworks. The Navy and Marine Corps acknowledged atrophy in amphibious skills and introduced these exercises to assess and improve naval service integration in amphibious operations. These exercises should be sustained into the future, and should pit U.S. forces against capable adversaries with advanced littoral defenses. They should avoid scripted scenarios, and instead afford other officers the opportunity to defeat the Amphibious Force. Truly challenging force-on-force training is the best way to improve, and to compare alternate C2 arrangements such as the proposed integrated naval staff. With the results of these exercises, best practices can be documented and doctrine further refined.

Finally, the ESGs, MEBs, and Expeditionary Warfare Training Groups (EWTGs) should devote more time and resources to staff training. The ESGs and MEBs have committed to these exercises, and have improved their capability and identified their shortfalls in manning, equipment, and training. ESG and MEB staffs should use virtual exercises and other training to continue to refine their skills outside of the BA/DB/SY series of exercises. The EWTGs must continue to prepare ARG/MEUs for their deployments, but should place greater emphasis on how those forces would aggregate under an ESG/MEB to respond to a crisis in an A2/AD environment. EWTG should compile the lessons of these amphibious exercises, capture the most successful organizational structures and the challenges to staff integration. These lessons will better prepare future ESG/MEB organizations to respond to a crisis in a contested littoral.

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